

USSR.

UDC: 620.178.162

BABEY, YU. I., GOLUBEYS, V. M., VYGOVSKIY, I. P., RYABOV, B. F., and  
GNATYSHAK, N. N.

"Effect of White Layer on Wear Resistance of 50X Steel"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 7-10

Abstract: An experimental investigation of the effect of white layer on the wear resistance of 50X(0.49% C, 0.21% Si, 0.65% Mn; 1% Cr, 0.24% Ni) steel was conducted.

The white layer was formed by turning the specimen journal ring on the lathe, with 88 meter/min cutting speed and 0.15 mm depth of cut, or by means of mechanical-ultrasonic treatment.

Test showed that the wear resistance of the specimens with white layer was equal to the ones, which were quenched at 850°C and drawn at 180°C. The wear of these specimens was about one third of the wear of unimproved specimens. The wear of the bronze and steel bushings rubbing against these specimens was reduced by about the same amount.

The white layer is formed by quenching and drawing due to the heat generated by the cutting tool.

The microradiographic spectral analysis showed that the content of carbon,

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BABEY, YU, I., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 7-10

chrome and other carbide-forming elements is higher in the white layer and lower in the sublayer than in the original metal.

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UDC 621.372.852.3:621.372.826

VZYATYSHEV, V. F., RYABOV, B. I., RAYEVSKIY, G. P.

"Attenuator without a Phase Shift Based on Dielectric Wave Guides"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972,  
vyp. 100, pp 128-135 (from RZh-Radiotekhnika, No 7, Jul 72, Abstract No 7E137)

Translation: The schematic is presented for an attenuator which operates by the principle of interference of two counterphase wave processes with identical amplitudes. A study was made of the double-channel version in which the input signal is divided equally between both channels. In each channel the signals passing through the phase converters undergo identical with respect to magnitude but opposite in sign phase shifts and are then added in an adder, forming a signal the amplitude of which is proportional to the cosine of the phase shift. The characteristics of the attenuator are analyzed. An experimental model is described. There are 3 illustrations.

1/2 018

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--TIME VARIATIONS IN THE DENSITIES OF FLUXES FROM DISCRETE SOURCES  
IN THE DECAMETER WAVELENGTH RANGE -U-

AUTHOR--(05)-BRAUDE, S.YA., ZHUK, I.M., LEBEDEVA, U.M., MEN, A.V., RYABOV,  
B.P.

COUNTRY OF INFO--USSR

SOURCE--UKRAINS'KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970, P. 177-190

DATE PUBLISHED--70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--ELECTRON FLUX, RADIO EMISSION, CRITICAL WAVELENGTH, SIGNAL  
ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PRUXY REEL/FRA--1991/0323

STEP NO--UR/0185/70/015/000/0177/0190

CIRC ACCESSION NO--AP0110211

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0110211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY OF THE TIME VARIABLE INTENSITIES OF RADIATION FLUXES FROM RADIO EMISSION SOURCES IN THE DECAMETER WAVELENGTH RANGE. THE STUDY IS BASED ON OBSERVATIONS OF THE FLUCTUATIONS IN RADIO SIGNAL SEQUENCES AND ON LONG PERIOD OBSERVATIONS OF THE MEAN VALUES OF THE DENSITIES OF RADIO EMISSION FLUXES FROM A LARGE GROUP OF DISCRETE RADIO SOURCES. THE RADIO EMISSION SPECTRA OF MOST OF THESE SOURCES SHOWED ONLY SLIGHT VARIATIONS WITH TIME, WITH THE EXCEPTION OF 3C84, 3C144 AND 3C461. THE TIME VARIABLE FLUCTUATIONS IN THE RADIO EMISSION SPECTRA OF THESE SOURCES ARE FOUND TO BE GREATER AT LOWER FREQUENCIES. POSSIBLE PHYSICAL CAUSES OF THESE TIME DEPENDENT FLUCTUATIONS ARE DISCUSSED. FACILITY: AKADEMIIA NAUK UKRAINS'KOI RSR, INSTITUT RADIOFIZIKI I ELEKTRONIKI, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

019

UNCLASSIFIED

PROCESSING DATE--16OCT70  
MHZ -U- IN THE FREQUENCY RANGE 12-25

TITLE--FLUX DENSITIES OF SOME RADIO SOURCES  
AUTHOR--(05)-BRAUDE, S.YA., LEBEDEVA, O.M., MEGN, A.V., RYABOV, B.P.,  
ZHOUCK, I.N.  
COUNTRY OF INFO--USSR

SOURCE--ASTROPHYS. LETTERS (GB), VOL. 5, NO. 3, P. 129-32 (MARCH 1970)  
DATE PUBLISHED---MAR70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION  
TOPIC TAGS--ELECTRON FLUX, RADIO TELESCOPE, COSMIC RADIO SOURCE/(U)UTRI  
RADIO TELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1992/0539

STEP NO--UK/0000/70/005/003/0129/0132

CIRC ACCESSION NO--AP0111732

UNCLASSIFIED

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019

CIRC ACCESSION NO--AP0111732

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS PAPER PRESENTS MEASUREMENTS  
OF THE FLUX DENSITIES OF 33 DISCRETE RADIO SOURCES, MADE WITH THE RADIO  
TELESCOPE UTR-1 IN GRAKOV, AT FREQUENCIES RANGING FROM 12.6 TO 25 MHZ.

FACILITY: ACAD. SCI. UKRAINIAN SSR, KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 523.164.42

BRAUDE, S. YA., ZHUK, I. N., LEBEDEVA, O. M., MEN', A. V. and RYABOV, B. P.,  
Institute of Radiophysics and Electronics, Academy of Sciences of the USSR, Kharkov

"Time Changes in the Flux Densities of Discrete Sources in the Decaneter Range"

Kiev, Ukrainskiy Fizicheskii Zhurnal, Vol. 15, No. 2, Feb 70, pp 177-190

Abstract: Two series of experiments were conducted to clarify the problem of the flux variability of sources in the decameter range. The purpose of the first series of experiments was to determine the type of fluctuations in signals occurring in 5-10 consecutive measurements of sources with first and third types of spectra. The second group of experiments was to determine the change in the average flux density with time for 30 sources, each of which was measured for several months. The first group of experiments indicated that fluctuations in signals received from the sources are associated with the ionosphere and not with processes occurring in the sources. The following sources were selected for the second series of experiments to determine whether the average flux densities of different sources vary over time: 3C10, 3C111, 3C196, 3C218, 3C274, 3C353, 3C123, 3C405, 3C461, 3C84, 3C98, 3C144, and 3C348 in Cassiopeia-A. Experiments show that spectra of the majority of these sources were stable and independent of time. Some typical results of measurements made during 1966-1968

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BRAUDE, S. YA., et al., *Ukrainskiy Fizicheskiy Zhurnal*, Vol 15, No 2, Feb 70, pp 177-190

are given for several of these sources. The data showed, however, that as distinct from the majority of discrete sources where the average spectra remained unchanged over a considerable time period within the accuracy of measurement, time changes in intensity exceeding the natural spread of data and error of measurement were observed in the spectra of three discrete sources: 3C84, 3C144, and 3C461. The data were insufficient to establish the period of variability of these sources. A discussion of the question indicates that this variability cannot be explained within the framework of existing models, and the physical processes responsible for this flux variability at low frequencies remain an open question. It was concluded that since a systematic increase in the flux of Cassiopeia-A at low frequencies was not observed, one would expect that in an injection of particles with a total energy of  $W_e = 10^{47}$  ergs, which is about 10% of the relativistic particles of the entire Cassiopeia-A, the variability observed during 1966-1967 must be a relatively rare phenomenon. Further systematic studies of these and other sources in the decameter range are recommended.

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Food Technology

USSR

UDC 597.0/5-14

ANTSYSHKINA, L. M., KIRILENKO, N. S., RYABOV, F. P., and MEL'NIKOV, G. B.,  
Dnepropetrovsk State University

"Dynamics of the Relative Size and Weight of the Viscera in *Tilapia mossambica*  
Peters Fed *Chlorella*"

Moscow, *Voprosy Ikhtiologii*, No 2, 1971, pp 345-348

Abstract: In 10-month aquarium experiments, *Tilapia mossambica* Peters was given granulated food containing different percentages of *Chlorella* and other organisms (*Daphnia*, yeasts) or nongranulated food not containing *Chlorella*. The fishes given *Chlorella*-containing granulated food exhibited greater weight gains and linear growth than did the fishes fed nongranulated food not containing *Chlorella*, and the physiological changes in the former were fewer than in the latter. Moreover, the food with a high *Chlorella* content (granules containing 70 to 100% *agla*) had less effect on the relative size and weight of the liver, gallbladder, spleen, heart gonads, etc. than did food with a low (30%) *Chlorella* content, nongranulated food, or food not containing *Chlorella*.

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USSR

UDC: 621.384.639

ABROSIMOV, N. K., ALKHAZOV, D. G., DMITRIYEV, S. P., YELISEYEV, V. A.,  
KAMINKER, D. M., KULIKOV, A. V., MIRONOV, Yu. T., MIKHETEV, G. F.,  
RYABOV, G. A., CHERNOV, N. N., SHALMANOV, V. I., KOMAR, Ye. G., MALY-  
SHEV, I. F., MONOSZON, I. A., PEREGUD, V. I., ROZHDESTVENSKIY, B. V.,  
ROYFE, I. M., SEREDENKO, Ye. V., Physicotechnical Institute imeni A. F.  
Ioffe, Academy of Sciences of the USSR, Leningrad, Scientific Research  
Institute of Electrophysical Equipment imeni D. V. Yefremov, Leningrad

"The Leningrad Synchrocyclotron for a Proton Energy of 1 GeV"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 9, Sep 71, pp 1769-1775

Abstract: The paper describes the synchrocyclotron at the Physicotechnical  
Institute imeni A. F. Ioffe of the Academy of Sciences of the USSR for a  
proton energy of 1 GeV. Proton beam parameters as well as the characteristics  
of the main systems of the accelerator are presented. The beam channels are  
described, and the layout of the accelerator building is given. The installa-  
tion has been in successful operation since 1970. Three tables, two figures,  
bibliography of twelve titles.

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AA0047088

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 2/70

243012 CIRCUIT FOR SUPPLYING INFORMATION TO A TELEPRINTER. The readers (3) have their digits of the same value connected in parallel to the first stage (8) of the commutator (1). The inputs of the readers are connected to the inputs of the second stage (9) of the commutator (1). The outputs of both stages of the commutator are connected to the input of the amplitude decoder (4) which is connected in series with the code converter (5) and the teleprinter (6). The

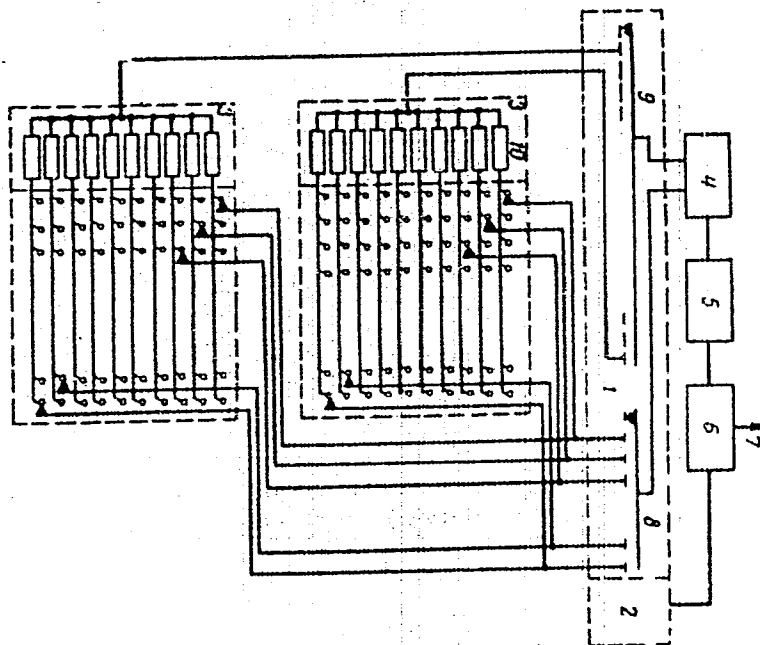
information is recorded in the module (2).  
6.6.66 as 1082311/18-24.G.I.STRIZHAK et al.VOLGOGRAD  
MACHINERY CONSTRUCTION RES.INST.(23.9.69)Bul 16/  
5.5.69. Class 21c. 74b. Int.Cl.G 05g. G08c.

AUTHORS: Strizhak, G. I.; Ryabov, K. G.; Ernandes, L. F. 4  
Volgogradskiy Nauchno - Issledovatel'skiy Institut Tekhnologii  
Mashinostroyeniya

1/2

19790569

AA0047088



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19790570

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USSR

UDC: 624.072.21/.23

RYABOV, N. S.

"Clarification of the Theory of Compressed and Bent Rods"

4-Ya Vses. Konf. po Probl. Ustoychivosti v Stroit. Mekh., Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability and Structural Mechanics, Abstracts of Reports -- Collection of Works], Moscow, 1972, p 48 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12V873, by A. V. Dyatlov)

Translation: An initially straight rod subjected to axial and transverse forces is studied. Representing by  $u$  the displacements along the initial  $x$  axis of the rod and by  $w$  the displacements along the  $z$  axis, perpendicular to  $x$ , the author composes equations of equilibrium considering the deformed state of the rod

$$\begin{aligned}\frac{\partial N}{\partial x} - Q \frac{d^2 w}{dx^2} + X &= 0 \\ \frac{dQ}{dx} + N \frac{d^2 w}{dx^2} - X \frac{dw}{dx} + q &= 0 \\ Q + \frac{dM}{dx} &= 0\end{aligned}$$

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USSR

Ryabov, N. S., 4-Ya Vses. Konf. po Probl. Ustoychivosti v Stroit. Mekh.,  
Tezisy Dokl., Moscow, 1972, p 48.

After substituting the dependences

$$\frac{d^2 w}{dx^2} = \frac{M}{EI}, N = EF \frac{du}{dx}$$

into these relationships, two nonlinear differential equations are produced relative to bend  $w$  and axial displacement  $u$ . No practical application of these equations is indicated. Comparison with results of the ordinary linear theory is not included in the article.

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USSR

UDC 624.073.1

RYABOV, N. S.

"Concerning the Theory of Thin Plates"

Moscow, Stroitel'naya Mekhanika i Rashchet Sooruzheniy, No 3, 1972, pp 16-18

Abstract: A theory of thin plates is presented, the principles of which make allowance for the deformation of plane cross sections. The theory leads to a single sixth-order resolving equation; this permits the rigorous satisfaction of three boundary conditions on each edge. 1 figure, 8 references.

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USSR

UDC: 539.1.07

MARKOV, K. P., RYABOV, N. V., STAS', K. N.

"Use of Photographic Films for Individual Radiometry of the Daughter Products of Radon"

Tr. Soyuzn. n.-i. in-ta priborostr. (Works of the Union Scientific Research Institute of Instrument Building), 1970, vyp. 12, pp 184-191 (from RZh-  
-Metrologiya i Izmeritel'naya Tekhnika, No 11, Nov 70, Abstract No 11.32.1471)

Translation: The authors consider the possibility of individual monitoring for the atmospheric content of radon decay products according to the "latent" energy by pumping air through a filtering cloth while simultaneously using a ZnS(Ag) scintillator and a photographic film to register the  $\alpha$ -activity of the specimen. The paper gives the results of theoretical and experimental studies on determining the sensitivity of the method and the measurement range.

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1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--EFFECT OF THE STRUCTURE OF STEEL ON THE HYDROGEN DIFFUSION  
COEFFICIENT -U-  
AUTHOR-(04)-VOLKOV, V.YE., RYABOV, R.A., KODES, YE.S., GELD, P.V.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. METAL METALLOVED. 1970, 29(2), 431-2  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--HYDROGEN, GAS DIFFUSION, METALLURGIC RESEARCH FACILITY, STEEL  
MICROSTRUCTURE, ALLOY DESIGNATION, DIFFUSION COEFFICIENT/(U)34KHM LOW  
ALLOY STEEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/0338 STEP NO--UR/0126/70/029/002/0431/0432  
CIRC ACCESSION NO--AP0126094  
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126094

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED OF THE STRUCTURE OF STEEL ON THE H DIFFUSION COEFF. UNDER GAS ELEC. DISCHARGE CONDITIONS. THE EXPTL. SETUP AND THE PROCEDURE USED HAVE BEEN DESCRIBED PREVIOUSLY. SAMPLES OF STEEL 34KHM IN THE FORM OF DISKS 37 MM IN DIAM. AND 1.0-1.6 MM THICK WERE USED. THE CHEM. COMPN. OF THE STEEL WAS: C 0.35; CR 1.10, MO 0.25, SI 0.33, AND MN 0.56 WT. PERCENT. THE STEEL HAD A PLATELETLIKE PEARLITE STRUCTURE. ON GROUP OF SAMPLES WAS VACUUM ANNEALED AT 850DEGREES FOR 1 HR, WHEREUPON IT WAS COOLED WITH THE FURNACE. THE ANNEALED SAMPLES HAD A GRANULAR PEARLITE STRUCTURE. THE 2ND GROUP OF THE SAMPLES WAS HELD IN A PB BATH AT 850DEGREES FOR 30 MIN, WHEREUPON IT WAS QUENCHED IN OIL. THE QUENCHED SAMPLES HAD THE MARTENSITIC STRUCTURE. THE LOWEST DIFFUSION COEFF. IS IN THE STRESSED MARTENSITIC STRUCTURE AND AMTS. TO  $2.8 \times 10^{-7}$  CM PRIME<sup>2</sup>-SEC; THE HIGHEST DIFFUSION COEFF. IS IN THE ANNEALED STRUCTURE OF GRANULAR PEARLITE AND AMTS. TO  $6.3 \times 10^{-7}$  CM PRIME<sup>2</sup>-SEC. THE DIFFUSION COEFF. IN THE PLATELETLIKE PEARLITE WAS  $4.5 \times 10^{-7}$  CM PRIME<sup>2</sup>-SEC. FACILITY: URAL. POLITEKH. INST. IM. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED / PROCESSING DATE--09OCT70  
TITLE--CLASSIFICATION OF HYPOFERRIC ANEMIAS -U-  
AUTHOR--(05)-RYABOV, S.I., RUDAKOVA, T.L., SENCHIK, R.V., MASKEYEVA, ZH.M.,  
SHOSTKA, G.D.  
COUNTRY OF INFO--USSR *R*  
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 4, PP 101-105  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ANEMIA, PEDIATRICS, MEDULLA, DIGESTIVE SYSTEM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PRUXY REEL/FRAME--1990/0943 STEP NO--UR/0504/70/042/004/0101/0105  
CIRC ACCESSION NO--AP0109100  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109100

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS THE DATA CONCERNING THE EXAMINATION OF 200 CHILDREN WITH DIFFERENT FORMS OF HYPOFERRIC ANEMIAS. ON THE BASIS OF THE INVESTIGATIONS CONDUCTED THE AUTHORS SUGGEST TO SINGLE OUT 10 FORMS OF HYPOFERRIC ANEMIA TAKING INTO CONSIDERATION THE CONDITION OF MEDULLARY HEMOPOISES AND THE RESULTS OF THE STUDY OF THE FUNCTIONAL ACTIVITY OF THE CELLS OF THE ERYTHROID SERIES. THE RESULTS OF THE MORPHOLOGICAL AND FUNCTIONAL INVESTIGATION OF THE STOMACH ARE OF GREAT HELP. FACILITY: KAFEDRA VNUTRENNIKH BOLEZNEY STOMATOLOGICHESKOGO FAKUL'TETA I LENINGRAD MEDITSINSKOGO INSTITIUTA IM. I. P. PAVLEVA NA BAZE BOL'NITSY NO 2 ZHDANOVSKOGO RAYONA.

UNCLASSIFIED

USSR

UDO 621.314.57(088.8)

GUBANOV, V.V., LEDIN, A.A., PROKHOROV, V.V., ROZANOV, YU.M., RYABOV, S.P.

"Converter of D-C Voltage Into Stabilized A-C"

USSR Author's Certificate No 248789, Filed 27 May 68, Published 26 Jan 70 (From RZh--Elektronika i yeye prizoneniy, No 10, October 1970, Abstract No 10354CP)

Translation: The invention pertains to a converter of d-c voltage into stabilized a-c, which contains a parallel thyristor inverter, a block for preliminary magnetization, and a ferresonance transformer--regulator, the magnetic circuit of which has a nonlinear section. The secondary winding is placed on this section, and connected in series with the choke of a higher harmonic filter and with the linear part. The primary and compensation windings simultaneously include the linear and nonlinear sections of the magnetic circuit. With the object of reducing the weight of the converter, it is proposed to make the linear section of the magnetic circuit in the form of two identical cores with a gap, the over-all cross section of which is equal to the designed cross section of the linear part, and the choke of a filter with two identical windings is connected in counter series. Each of the windings is placed at one of the cores of the linear section of the magnetic circuit. With the object of increasing the reliability of operation and reducing the transition time, it is proposed to place on the nonlinear section a winding of the magnetic bias of the block for preliminary magnetization. 2 ill. I.R.

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USSR

UDC 539.4.015.1

DERYAGIN, B. V., Corresponding Member, Academy of Sciences, USSR, PAPLAUSKAS, A. B., RYABOV, V. A., and SEMENOV, N. I., Institute of Physical Chemistry, Academy of Sciences, USSR, Moscow

"Strengthening of Glass by the Hydrothermal Method"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 6, 21 December 1970, pp 1326-1328

Abstract: It is shown that when glass is subjected to hydrothermal treatment under dynamic conditions, not only is the surface of the glass dissolved, but it is also greatly strengthened. Under certain conditions, strengthening by a factor of 5-6 can be obtained with retention of the optical properties of the glass, and glass with a light-diffusing surface can be obtained with strengthening by a factor of 4-5. If the optical properties of the glass need not be considered, tenfold strengthening may be obtained. This is valid only with respect to defects of the glass, abstracting from other factors. 3 figures, 5 bibliographic entries.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--INTERACTION OF GLASS WITH WATER UNDER DYNAMIC HYDROTHERMAL  
CONDITIONS -U-  
AUTHOR--(04)-DERYAGIN, B.V., PAPLAUSKAS, A., RYABOV, V.A., SEMENOV, N.I.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1316-18  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--GLASS SURFACE PROPERTY, LIQUID GLASS, WATER, FLOW RATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--3006/1128 STEP NO--UR/0020/70/191/006/1316/1318  
CIRC ACCESSION NO--AT0134814

UNCLASSIFIED



2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134814

ASSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RATE OF GLASS REMOVAL ( $\Delta$ ) CHARACTERIZING THE INTERACTION OF GLASS WITH WATER UNDER DYNAMIC HYDROTHERMAL CONDITIONS IS STUDIED. AN INITIAL INCREASE IN  $\Delta$  WITH TEMP. ( $T$ ) IS PRACTICALLY THE SAME FOR ALL THE WATER FLOW RATES USED (3.3, 6.4, 9.1, AND 17.6 M-SEC), BUT IT SHARPLY INCREASES FROM SOME CRIT. TEMP. REACHING MAX. VALUES ( $\Delta$  SUBMAX) AT  $T$  SUBMAX; FOR HIGHER FLOW RATES  $\Delta$  SUBMAX IS HIGHER AND SHIFTS TOWARDS THE HIGHER TEMPS. WITH FURTHER INCREASE IN TEMP.  $\Delta$  DECREASES. FOR FLOW RATES LARGER THAN 2 M-SEC THE GLASS SURFACE HAS A MAT OR SMOOTH FINISH DEPENDING ON THE TEMP. OF THE WATER FLOW; FOR FLOW RATES SMALLER THAN 1 M-SEC. THE GLASS SURFACE IS COVERED WITH THE PRODUCTS OF THE WATER GLASS COMPONENT INTERACTION RESULTING IN FORMATION OF THE LIGHT DISPERSION SURFACE.

FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 040 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--SHADOW EFFECT DURING PHASE TRANSITIONS -U-

AUTHOR--(02)-AGRANOVICH, V.M., RYABOV, V.A. R

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(1), 260-3

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FERROELECTRIC MATERIAL, ION THEORY, SHADOW ZONE, CRYSTAL  
LATTICE DEFORMATION, ANISOTROPY, THERMAL EFFECT, VIBRATION, PHASE  
TRANSITION, ANGULAR DISTRIBUTION, BARIUM TITANATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/1857

STEP NO--UR/0181/70/012/001/0260/0263

CIRC ACCESSION NO--AP0118821

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NDV70

2/2 040

CIRC ACCESSION NO--AP0118821  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE VARIATION OF THE FORM OF THE  
ION SCATTERING SHADOW PATTERNS DURING SMALL DEFORMATIONS OF THE LATTICE  
AND ANISOTROPY OF THERMAL VIBRATIONS WHICH ACCOMPANIED PHASE TRANSITIONS  
OF THE DISPLACEMENT TYPE IN FERROELECTS. WERE STUDIED. IN TERMS OF THE  
MODEL OF A CHAIN ATOMS OF 2 KINDS WITH ALTERNATING CHARGES, THE BEHAVIOR  
OF THE WIDTH OF THE AXIAL SHADOW DEPENDING ON THE MAGNITUDE OF SHIFT WAS  
CONSIDERED. A STATISTICAL CALC. WAS MADE OF THE ANGULAR DISTRIBUTION  
OF FAST IONS SCATTERED BY A CHAIN OF BA, TI IN A NONSYM. PHASE FOR BATIO  
SUB3 CRYSTAL. THE EXPTL. CBSD. SHIFT OF THE LINEAR SHADOW IS A  
CONSEQUENCE OF ITS ASYMMETRY PRODUCED BY A DIFFERENCE IN CHARGES IN THE  
SHIFTED PLANES. THE PROBLEM WAS ALSO CONSIDERED OF THE EFFECT OF THE  
ANISOTROPY OF THERMAL VIBRATIONS, PRODUCED IN THE TRANSITION INTO A  
NONSYM. PHASE, ON THE SHAPE OF THE AXIAL SHADOW.

UNCLASSIFIED

Acc. Nr:

AT0048312

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

4R 0020

93956r Auto-epitaxial synthesis of diamond crystals. Deryagin, B. V.; Lyuttsau, V. G.; Fedoseev, D. V.; Ryabov, V. A. (Inst. Fiz. Khim., Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190 (1), 86-7 [Tech Phys] (Russ). By using the method described by Deryagin, *et al.* (1968), a  $\sim 80\mu$  diam. and  $120\mu$  long diamond crystal was grown on the (111) lattice of a support crystal. HMJR

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REEL/FRA

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USSR

R

UDC:

AGRANOVICH, V. M. and RYABOV, V. A.

"Effect of Shadow in Phase Transition"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 1, January 1970, pp 260-263

Abstract: The authors study change in the shape of the shadow accompanying small deformation of a lattice and heat variation anisotropy which occur during shift-type phase transition in ferroelectric crystals. Behavior of the width of axial shadow is studied as a function of shift using a two-type atom chain model with alternating charges. Using the statistical testing method, the authors calculate the angular distribution function for fast ions scattered by the Ba—Ti chain in a nonsymmetric phase for a barium titanate crystal. The authors conclude that the experimentally observed shift in linear shadow is the result of its asymmetry evoked by the absence of charges in the shifted planes. Problems associated with the effect of heat variation anisotropy, present during transition to the nonsymmetric phase, on the shape of the axial shadow are discussed.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--SCATTERING OF FAST CHARGED PARTICLES ON CRYSTALS -U-  
AUTHOR--RYABOV, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 38, NR 1, PP 63-67  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ANGULAR DISTRIBUTION, CHARGED PARTICLE, CRYSTAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1989/1897 STEP NO--GE/0030/70/038/001/0063/0067  
CIRC ACCESSION NO--AP0108227  
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0108227

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANGULAR DISTRIBUTION OF FAST CHARGED PARTICLES SCATTERED ON A PERFECT CRYSTAL IS STUDIED. BY INTRODUCING THE MANY PARTICLE CORRELATION FUNCTIONS THE VELOCITY DISTRIBUTION FUNCTION CONVENIENT FOR NUMERICAL ANALYSIS IS OBTAINED. IT IS SHOWN THAT THIS DISTRIBUTION DEPENDS ESSENTIALLY ON CORRELATIONS BETWEEN THE THERMAL ATOMIC DISPLACEMENTS OF A LATTICE. A TWO PARTICLE MODEL IS CONSIDERED AS A PARTICULAR CASE, WHICH RESULTS ARE COMPARED WITH EXPERIMENTAL DATA. IT IS EVIDENT THAT EVEN IN THIS SIMPLEST CASE THE AXIAL SYMMETRY OF THE SCATTERING YIELD IS DISTURBED. THIS IS DETERMINED BY THE DIFFERENCE OF THE VARIOUS CORRELATION TENSOR'S COMPONENTS AS FOUND. FACILITY: INSTITUTE OF PHYSICS AND ENERGETICS, OBNINSK.

UNCLASSIFIED

- 49 -

USSR

UDC [669.243 + 669.33]:669.052

MASH'YANOV, N. P., KOLESNIKOV, B. I., LAPIN, Yu. D., KECHEV, V. V., RYABOV, V. G.,  
VASIL'YEV, M. G., and SHUSTITSKIY, V. D.

"Certain Problems of the Production of Copper and Nickel From Complex Crude  
Sulfides"

Moscow, Tsvetnyye Metally, No 10, Oct 70, pp 11-14

Abstract: Difficulties encountered in the production of copper and nickel from sulfide copper-nickel ores are discussed. Procedures used in the USSR for separating these metals as well as cobalt are evaluated, and the necessity for the reconstruction of present copper-nickel production combines is stressed. A plan is recommended which would involve the parallel production of copper and nickel with an exchange of semi-products between them. A schematic production chart and a table containing the compositions of basic materials used in processing sulfide copper-nickel ores are presented. The recommended plan would ensure the recovery of 98-99% Cu, 96-97% Ni, and 85-87% Co, and would increase the recovery of noble metals and platinum. The plan involves a substantial increase in the use of oxygen, not only for melting but also for converting ores and concentrates. The plan would also make it possible to utilize more complete-

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USSR

MASH'YANOV, N. P., et al, Tsvetnyye Metally, No 10, Oct 70, pp 11-14

ly the crude sulfides, and to obtain pig-iron and construction materials from the high-ferrous converter mattes.

2/2

USSR

UDC 669.718.66

RYABOV, V. R.

"Calorizing Steel"

Moscow, Alitirovaniye stali (cf. English above), Metallurgiya, 1973, 239 pp  
(from Alitirovaniye stali, Metallurgiya, 1973, pp 2-4)

Translation of Annotation: A study was made of the theoretical principles of liquid calorizing and obtaining combination compounds between aluminum and its alloys with steel of different classes. The results of the studies of Soviet and foreign scientists are generalized. The book is designed for the engineering and technical workers at the metallurgical and machine building plants, the scientific and technological process planning institutes. It can be used by the students of the corresponding institutions of higher learning.

There are 96 illustrations, 25 tablos and a 181-entry bibliography.

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RYABOV, V. R., Alitirovaniye stali, Metallurgiya 1973, 239 pp

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RYABOV, V. R., Alitirovaniye stali, Metallurgiya, 1973, 239 pp

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USSR

UDC 621.791:546.621:532.72

LARIKOV, L.N., FAL'CHENKO, V.M., RYABOV, V.R., LOZOVSKAYA, A.V., KRAVCHENKO, A.G., and YEREMINA, A.N.

"Determination of Aluminum Self-Diffusion in Intermetallides Formed During Welding"

Kiev, Avtomaticheskaya Svarka, No 6, Jun 71, pp 71-72

Abstract: In the present work, conducted by the Institute of Electric Welding jointly with the Institute of Metal Physics, Academy of Sciences Ukrainian SSR, with the use of isotope  $Al^{26}$  self-diffusion was studied in samples of pure aluminum and Fe-Al alloys having the following intermetallic phases:  $FeAl_3$ ,  $FeAl$ ,  $Fe_3Al$ ,  $Fe_2Al_5$ , and  $FeAl_2$ . Equations for the temperature relationship of self-diffusion coefficients were derived. 1 table, 2 bibliographical references.

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USSR

UDC 621.791.856.3:669.15-194:546.621

RYABOV, V. R., YUMATOVA, V. I., GRABIN, V. F., BUTNIK, A. P., DZYKOVICH, I. Ya., KUZNETSOV, Ye. P., and BELOZEROV, L. F., Institute of Electric Welding imeni Ye. O. Paton

"Effect of Nickel and Chromium in Steel on the Characteristics of Alloy Combinations"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 71, pp 18-23

Abstract: An investigation was made of the effect of additions of nickel and chromium to Armco iron on the characteristics of the diffusion layer which appears during calorization. The dependence of the durability of steel-aluminum alloys on the additions contained in the steel was also studied. The nickel and chromium alloys with steel were prepared in an induction furnace with a capacity of 7 kg, and the ingots obtained were annealed at 1100-1200°C for three hours. They were then rolled into plates measuring 220 x 1200 x 3 mm. After slag removal, the specimens were calorized in an aluminum bath and cleaned. Tests were made of welds of experimental alloys prepared in the ADSV-2 automatic welder, and the phases of the layers formed during calorization and welding were studied

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USSR

RYABOV, V. R., et al, Avtomaticheskaya Svarka, No 2, Feb 71, pp 18-23

by X-ray analysis. The introduction of nickel and chromium was found to delay the growth of the calorized diffusion layer.

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USSR

UDC 621.791.856.3:621.9-419:620.193

ZOTOVA, L. M., RYABOV, V. R., and LANGER, N. A., Institute of Electric Welding  
imeni Ye. O. Paton, Academy of Sciences UkrSSR

"Contact Corrosion of Aluminum-Steel Welded Joints"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 70, pp 19-23

Abstract: A review is made of available data from experimental and industrial investigations on the corrosion resistance of aluminum-steel welded joints. Various methods and procedures for the protection of such joints against destruction by corrosion under service conditions are described. Data are given on aluminum-steel pair characteristics in sea and fresh water, polarization of various bimetallic joints, and potential distribution in welded joints of aluminum with steel.

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USSR

UDC: 621.791.856.3.011

RABKIN, D. M., and RYABOV, V. R.; Institute of Electric Welding imeni Ye O. Paton, Academy of Sciences Ukrainian SSR; YEREMENKO, V. R., LESNIK, N. D., and PESTUN, T. S.; Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Surface Phenomena in Welding Aluminum Directly to Armco Iron"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 20-23

Abstract: The behavior of liquid aluminum with respect to solid iron is of great theoretical interest for a number of metallurgical processes. This study concerns the effect of temperature-time conditions on the spreading of aluminum over iron and the intermetallide phases  $Fe_3Al$ ,  $Fe_2Al_5$ ,  $FeAl_3$ . The kinetics of spreading was analyzed in vacuum ( $1-3 \cdot 10^{-5}$  mm Hg at maximum temperatures of the experiment) using filming and telescopic lens photography for recording the process. Use was made of AV-000 (99.99% Al) and armco iron. Considered were the possible mechanism for contact interaction of liquid aluminum with iron and the conditions for producing welded joints of

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USSR

RABKIN, D. M., et al, Avtomaticheskaya Svarka, No 11, Nov 70, pp 20-23

iron with aluminum with a minimum interlayer of brittle intermediate phases. Wetting was found to improve with temperature. Quality welding of armco iron with aluminum is achieved by minimum contacting time of iron with its melts and high dissolution rate of iron in aluminum.

USSR

Welding

UDC 621.791.75.011:669.14.018+669.715

RYABOV, V. R., Candidate of Technical Sciences, YUMATOVA, V. I., Engineer,  
BUTNIK, A. L., Engineer, GRABIN, V. F., Candidate of Technical Sciences,  
KUZNETSOV, YE. P., Engineer, and BELOZEROV, L. F., Engineer, Institute of  
Electric Welding imeni YE. O. Paton

"Effect of Alloying Elements in Steel on the Properties of Steel-Aluminum  
Welded Joints"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 71, pp 9-12

Abstract: A study was made of the effect of alloying elements (Nb, Mn, Si, Va, Ti, Zr, Co, Nd) in steel on the properties of the diffusion zone created during aluminizing and welding and on the strength of welded steel-aluminum joints. The preparation of samples and the experimental procedure are described. The results show that introduction of alloying elements into a steel base delays the growth of the aluminized diffusion layer. The silicon introduced substantially reduces the microhardness of the aluminized diffusion layer. The plating method (aluminizing or galvanizing) before welding strongly affects the hardness of the joint.

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1/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--PHASE COMPOSITION OF NEODYMIUM, IRON AND ALUMINUM ALLOYS IN THE 0  
TO 33.3 AT. PERCENT NEODYMIUM RANGE -U-  
AUTHOR--VIVCHAR, O.I., ZARECHNYUK, O.S., RYADOV, V.R.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 211-13  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--NEODYMINUM ALLOY, ALUMINUM ALLOY, IRON ALLOY, CRYSTAL LATTICE  
STRUCTURE, ALUMINUM CONTAINING ALLOY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1988/0537 STEP NO--UR/0370/70/000/001/0211/0213  
CIRC ACCESSION NO--AP0105522  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105522

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VARIOUS ND-FE-AL ALLOYS WERE ANNEALED FOR 2500<sup>1</sup> HR AT 500DEGREES AND THEN QUENCHED. THE TERNARY COMPOS. PSI PRIME, PSI, AND N SUB2 WERE FOUND AND THE TERNARY PHASE PHI SUB2 SOLID SOLN. OF AL IN THE COMPO. ND SUB2 FE SUB17. THE PSI PRIME PHASE CAN BE EXPRESSED BY THE APPROX. FORMULA ND<sub>FE</sub> SUB2 AL SUB10. THE PSI PHASE HAS A VARIABLE COMPN., ND<sub>FE</sub> SUB3.3-4 AL SUB8.7-8, AND A TETRAGONAL STRUCTURE WHICH IS THMN SUB12 TYPE. ITS LATTICE PERIODS VARY FROM A EQUALS 8.84, C EQUALS 5.05, C-A EQUALS 0.571 TO A EQUALS 8.78, C EQUALS 5.04 ANGSTROM, C-A 0.574. THE STRUCTURE OF THE N SUB2 PHASE IS NOT KNOWN, AND ITS COMPN. VARIES (ND<sub>FE</sub> SUB1.2-1.65 AL SUB0.8-0.35). THE SOLID SOLN. ND SUB2 (FE, AL) SUB17 IS CHARACTERIZED BY A CONSIDERABLE EXTENSION. THE MAX. AL CONTENT IN THE SOLID SOLN. IS 45 AT. PERCENT. THUS, THE SYSTEM ND-FE-AL IS VERY SIMILAR TO THE LA-FE-AL SYSTEMS (O. S. ZARECHNYUK, ET AL., 1968), AND THE CE-FE-AL SYSTEM (O. S. ZARECHNYUK, ET AL., 1969).

UNCLASSIFIED

Acc. Nr:

AT0048306

Abstracting Service:  
CHEMICAL ABST.

Ref. Code:

UR0441

93846e Aluminium-rich phase of a phase diagram of the molybdenum-iron-aluminum system. Markiv, V. Ya.; Burnasova, V. V.; Ryukov, V. P. (Inst. Probl. Materialoznavstva, Kiev, USSR). *Dopov. Akad. Nauk Ukr. RSR. Ser. A* 1970, 1, 69-72 (Ukrain). Microscopic and x-ray methods were used for the study of aluminum-rich phase of the Mo-Fe-Al system. The Mo-Fe-Al phase diagram was obtained from the investigation on 15 binary and 75 ternary systems. Isothermal sections of the Mo-Fe-Al diagram at 800 and 1050° are presented. Two ternary phases, N and S, were ascertained in the isothermal section at 1050°.  $\text{Mo}_{1.5}\text{Fe}_{1.5}\text{Al}_{1.5}$  (N phase) is tetragonal with  $a$  3.76 and  $c$  8.43 Å and seems to be isotypic with  $\text{TiAl}_3$ . The S phase with a compn. of 5 at. % Mo, 35 at. % Fe, and 60 at. % Al was not studied in detail. The N and S phases were stable at >900° and >1000-1050°, resp. Binary compds. of FeAl and FeAl<sub>3</sub> exist in equil. with Mo<sub>3</sub>Al<sub>8</sub> in the isothermal section at 800°. Frantisek Cajnar

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19800006

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18

USSR

RYABOV, V. R., YUMATOVA, V. I., SAYENKO, M. I., Institute of Electric Welding  
im. Ye. O. Paton, An UkrSSR, KAZACHINSKAYA, N. V., Kiev Polytechnic Institute

"Use of the Method of Multifactor Planning of Experiments for Studies of  
Calorizing of Kh18N10T and Type 3 Steels Before Welding With Aluminum"

Kiev, Avtomaticheskaya Svarka, No 12, 1972, pp 34-37

Abstract: The dependence of diffusion layer thickness formed upon calorizing of Kh18N10T and type 3 steels on melt temperature, calorizing time, and specimen volume was studied. The influence of heating rate and cooling on growth of the diffusion layer was also studied. Mathematical dependences were produced, showing that in direct welding of aluminum with steel, calorizing and the production of bimetallic castings, the basic factor determining the thickness of the diffusion layer is the melt temperature. This provides technological possibilities for regulation of layer thickness. The influence of volume (mass) of the specimens is less significant.

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USSR

UDC: 621.375.024(088.8)

RYABOV, V. S., MIKHALIN, I. S.

"A DC Amplifier"

USSR Author's Certificate No 261466, filed 1 Jul 68, published 12 May 70  
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D137 P)

Translation: This Author's Certificate introduces a DC amplifier which contains a bridge with two adjacent arms made up of paired variable resistors, and with fixed resistors in the other pair of arms. The purpose of the invention is to improve the thermal stability of the amplifier and to obtain a unipolar voltage at the output. To this end, two transistors of identical conductivity type are connected with their emitter-base junctions opposed in the diagonal of the bridge between the fixed and variable resistors. The collectors of these transistors are connected to a common load resistor and to one of the output terminals; in this hook-up, the fixed resistors of the bridge act simultaneously as the feedback resistors for the transistors.

E. L.

1/1

- 1 -

USSR

LETOKHOV, V. S., RYABOV, Ye. A., and TUMANOV, O. A. (Institute of Spectroscopy, USSR Academy of Sciences)

"Molecular Gas Luminescence Induced by a CO<sub>2</sub> Laser Pulse"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, December 1972, pp 2025-2032

Abstract: Ultraviolet and visible luminescence induced by radiation from a CO<sub>2</sub> laser is investigated in NH<sub>3</sub> and C<sub>2</sub>F<sub>3</sub>Cl gases absorbing the radiation. The luminescence is found to be of a threshold nature. The dependence of the threshold on gas pressure and dependence of luminescence intensity on intensity of the CO<sub>2</sub> laser pulse are measured. It is found that luminescence is produced without any delay with respect to the laser pulse. The role of vibrational heating of molecules by the laser pulse with subsequent dissociation and light emission by the decay products and also other possible mechanisms of luminescence production are discussed.

1/1

USSR

UDC 621.527

RYABOV, V. V., SAKSAGANSKIY, G. L.

"Evacuation of Chlorine-Containing Mixtures by a Titanium Discharge Pump"

Moscow, Pribery i Tekhnika Eksperimenta, No 5, 1972, pp 166-168

Abstract: The experimental procedure and results are presented from a study of the kinetics of prolonged evacuation of Cl by a titanium magneto discharge pump of the diode type. The experiment was performed on a superdeep vacuum test unit with background and operating pressures of  $2-3 \cdot 10^{-8}$  and  $4-6 \cdot 10^{-6}$  torr respectively. More than 1,400 hours of Cl pumping does not lead to noticeable worsening of the pump parameters. The Cl pumping speed under steady state conditions is ~80% of the air pumping speed. The sorption of the Cl in the operating temperature range of the pump is irreversible. Reliable vacuum measurements in systems containing Cl are possible only with the application of magneto discharge manometric converters. Thermoelectronic converters are inapplicable in these cases.

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1/2 032 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--KINETICS OF TITANIUM OXIDATION AT HIGH TEMPERATURES IN A MIXTURE OF  
CARBON DIOXIDE WITH CARBON MONOXIDE -U-  
AUTHOR--(02)-TIKHOMIROV, V.I., RYABOV, YE.M.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 432-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--OXIDATION KINETICS, TITANIUM, CARBON DIOXIDE, CARBON MONOXIDE,  
CRYSTAL STRUCTURE, DIFFUSION COEFFICIENT, HIGH TEMPERATURE OXIDATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/0850 STEP NO--UR/0080/70/043/002/0432/0434  
CIRC ACCESSION NO--AP0104286  
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0104286

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF THE OXIDN. OF COM. TI, GRADE BT1-1 IN FORM OF PLATES 15 TIMES 7 TIMES 2 MM, AT 850-1150DEGREES FOR 2-3 HR, IN MIXTS. CONTG. AIR, CO, OR CO SUB2, WAS STUDIED IN LAB. EXPTS. THE OXIDIZED PLATES WERE INVESTIGATED BY USING X RAY, METALLOGRAPHIC, AND CHEM. METHODS. THE REACTION RATE FOLLOWED THE EVANS EQUATIONS  $Q \text{ PRIME}^2 \text{ PLUS } K \text{ SUBP } Q - K \text{ SUBL EQUALS } K \text{ SUBP } T$ , WHERE Q IS THE WT. INCREASE OF THE PLATE, T IS TIME, AND K SUBP AND K SUBL ARE THE PARABOLIC AND LINEAR RATE CONSTS., RESP. AT 850-900DEGREES, A MONOLAYER AND AT HIGHER TEMPS. 2 LAYER SCALES WERE FORMED. IN ALL CASES THE SCALE CONSISTED OF RUTILE. THE HARDNESS OF THE OXIDIZED PLATES DID NOT DEPEND ON THE OXIDN. TIME. THE CALCD. DIFFUSION COEFFS. OF O IN TI WERE 0.023 AND 0.030, 0.068 AND 0.14, AND 0.092 AND 0.51 TIMES 10 PRIME NEGATIVE 8 CM PRIME 2-SEC. FOR THE OXIDN. WITH O, CO SUB2 PLUS CO, AND CO SUB2, AND 900 AND 1000DEGREES, RESP. THE OXIDN. OF TI OCCURS IN AN INTERMEDIATE REGION. AT SMALLER THAN 950DEGREES THE OXIDN. OCCURS STOICHIOMETRICALLY ON THE INTERFACE SCALE-METAL. AT HIGHER TEMPS. SOME CHEMISORPTION ON THE INTERFACE SCALE-GAS TAKES PLACE.

UNCLASSIFIED

26 (4)

SOV/19-59-6-169/309

AUTHOR: Brill', V.D., Ryabov, Yu. A.

TITLE: A Testing Stand for Gear Transmissions

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 6, p 35 (USSR)

ABSTRACT: Class 42k, 21<sub>02</sub>. Nr 118640 (602325 of 21 June 1958)

A stand for testing and running-in gear transmissions, mainly reducers. To permit the programming of tests and the controlling of loads during the process, the stand is designed in the form of a hydraulic installation consisting of an electric motor, a hydraulic transmission coupled with the gear transmission being tested, a test-programming device, tensiometers for measuring the input and output loading moments of the gear transmission, and tachometers for checking the rotation speed of the transmission. 2) The test-programming device consists of a gear-ratio control mechanism and a loading-moment control mechanism, both interlinked with a differential gear.

Card 1/1

USSR

UDC: 621.372.54

IL'IN, P. A., SUDAKOVA, V. I., RYABOV, Yu. A.

"An Electromechanical Filter"

USSR Author's Certificate No 281672, filed 4 Nov 68, published 29 Dec 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V439 P)

Translation: An electromechanical filter is proposed which contains sections formed by series-connected resonators and restraints which operate in the torsional vibration mode. To improve the resistance of the filter to vibration, its sections are arranged in parallel and interconnected by restraints which operate in the longitudinal vibration mode, and the free ends of the sections are connected to the base through quarter-wave resonators.

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USSR

UDJ 621.372.061.2

GOLUBNICHIIY, A.P., LANNIS, A.A., RYABOV, YU.D.

"Stability Criteria Of The Frequency Characteristics Of Microelectronic Active RO-Circuits"

Elektrosvyaz<sup>1</sup>, No 3, Mar 1972, pp 53-59

Abstract: Criteria are considered and functions are found for an evaluation of the stability of the frequency characteristics of microelectronic active RO-circuits. The real mechanism of the destabilization of frequency characteristics is considered. Functions are found as criteria for evaluation of the deviations of the amplitude-frequency characteristic and phase-frequency characteristic of a circuit. Two examples are given which illustrate the basic results of the work. 2 fig. 1 tab. 19 ref. Received, 9 Mar 1971.

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1/2 010 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--SYNTHESIS OF SUBSTITUTED TETRAPEPTIDES CORRESPONDING TO THE 14-17  
SEQUENCE YEAST CYTOCHROME C -U-  
AUTHOR-(04)-LVOVA, S.D., YEVSTIGNEYEVA, R.P., MELNIKOVA, S.A., RYABOVA,  
I.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(1), 242-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--YEAST, PEPTIDE, CHEMICAL SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY KEEL/FRA--1989/1255 STEP NO--UR/0079/70/040/001/0242/0245  
CIRC ACCESSION NO--AP0107731  
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0107731

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATING 0.18 G GAMMA ME ESTER OF CARBOBENZOXY,L, GLUTAMIC ACID IN TETRAHYDROFURAN WITH 0.086 ML N,METHYLMORPHOLINE AND 0.164 ML ISO,BUO SUB2 CCL AT MINUS 15DEGREES, FOLLOWED IN 10 MIN BY 0.27 G BENZYL ESTER OF L,LEUCYL,S,BENZYL,L,CYSTEINE,HCL AND 0.086 ML N,METHYLMORPHOLINE, GAVE OVERNIGHT 97PERCENT BENZYL ESTER OF N,CARBOBENZOXY,(GAMMA METHYL L GLUTAMYL),L,LEUCYL,S,BENZYL,L,CYSTEINE, M. 142-30DEGREES. SIMILARLY WERE PREPD. IN 50-80PERCENT YIELDS THE FOLLOWING PEPTIDE ESTERS; CARBOBENZOXY,L,LEUCYL,S,BENZYL,L,CYSTEINE BENZYL ESTER, M. 100-100.5DEGREES. (ME ESTER, M. 115-16DEGREES); CARBOBENZOXY,DL,LEUCYL,S,BENZYL,DL,CYSTEINE BENZYL ESTER, M. 89-9.5DEGREES. TERT,BUTOXY, CARBONYL,L,LEUCYL,S,BENZYL,L,CYSTEINE BENZYL ESTER, M. 86.5-7.5DEGREES. CARBOBENZOXY,DL,(METHYL GLUTAMYL),DL,LEUCYL,S,BENZYL,DL,CYSTEINE BENZYL ESTER, M. 140-1DEGREES. TERT,BUTOXYCARBONYL,L, GLUTAMYL, (BENZYL ESTER),L,LEUCYL,S,BENZYL,L,CYSTEINE ME ESTER, M. 129-9.5DEGREES. CARBOBENZOXY,S,BENZYL,L,CYSTEINYL,L, GLUTAMYL(METHYL ESTER),L, LEUCYL,S,BENZYL,L,CYSTEINYL BENZYL ESTER, M. 124-5DEGREES. CARBOBENZOXY, S,BENZYL,L,CYSTEINYL,L, GLUTAMYL(BENZYL ESTER),L,LEUCYL,S, BENZYL,L,CYSTEINYL ME ESTER, M. 160-60.5DEGREES. CARBOBENZOXY,S, BENZYL,DL,CYSTEINYL,DL, GLUTAMYL(ME ESTER),DL,LEUCYL,S,BENZYL, DL,CYSTEINE BENZYL ESTER, M. 145.5-6DEGREES.

UNCLASSIFIED

USSR

UDC 51

RYABOVA, L. D.

"Digital Model of the Situation on a Transport Network"

V sb. Prom. kibernetika (Industrial Cybernetics -- collection of works), Kiev, 1971, pp 306-315 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V546)

No abstract

1/1

USSR

UDC 51

SBITNEV, A. I., ~~RYABOVA, L. D.~~

"List Algorithm for the Solution of the Problem of Constructing the Optimal Traffic Schedule for Industrial Transportation"

V sb. Prom. kibernetika (Industrial Cybernetics -- collection of works), Kiev, 1971, pp 316-327 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V544)

No abstract

1/1

USSR

UDC: 51:330.115

SBITNEV, A. I. ~~RYABOVA~~, L. D.

"On an Optimum Problem in Setting up a Traffic Schedule for Industrial Transportation"

V sb. Tekhn. kibernetika. Vyp. 14 (Technical Cybernetics--collection of works, No 14), Kiev, 1970, pp 59-66 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V672)

[No abstract]

1/1

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--SHOWER SPARK CHAMBERS FOR RECORDING PARTICLES FLYING AT LOW ANGLES  
TO A BREMSSTRAHLUNG -U-  
AUTHOR--(04)-KRYSHKIN, V.I., RYBAKOVA, N.A., STERLIGOV, A.G., USOV, YU.P.  
COUNTRY OF INFO--USSR  
SOURCE--PRIB. TEKH. EKSP. 1970, 1, 54-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--SPARK CHAMBER, CASCADE, BREMSSTRAHLUNG, SMALL ANGLE  
SCATTERING, ELECTRODE DESIGN, PION, ELECTRON POSITRON PAIR, SYNCHROTRON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1991/1076 STEP NO--UR/0120/70/001/000/0054/0057  
CIRC ACCESSION NO--AP0110766  
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110766

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. IS DESCRIBED FOR REGISTRATION OF PARTICLES LEAVING THE TARGET AT SMALL ANGLES WITH RESPECT TO THE BREMSSTRAHLUNG. THE APP. IS EQUIPPED WITH SHOWER SPARK CHAMBERS WHICH HAVE OPENINGS ACTING AS CHANNELS FOR THE BREMSSTRAHLUNG. IT IS DESIGNED FOR PARTICLES FLYING AT 2-15DEGREES. THE MIDDLE ELECTRODE OF THE 1ST CHAMBER AND 1ST 3 ELECTRODES OF THE 2ND CHAMBER ARE MADE OF PB, THE REMAINING ELECTRODES OF DURALUMIN. THE APP. WAS USED TO DET. THE LIFETIME OF A NEUTRAL PION AND THE ANGLE DISTRIBUTION OF E PRIME NEGATIVE MINUS E PRIME POSITIVE PAIRS IN THE 1.5-GEV E SYNCHROTRON. FACILITY: NAUCH. ISSLED. INST. YAD. FIZ., ELEKTRON, AVTOMAT., TOMSK, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--NEW PHASES OF ANALYZING AROMATIC HYDROCARBONS BY GAS LIQUID  
CHROMATOGRAPHY -U-  
AUTHOR--(02)-NARMETOVA, G.R., RYABOVA, N.D.  
COUNTRY OF INFO--USSR  
SOURCE--UZB. KHIM. ZH. 1970. 14(1), 29-30  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AROMATIC HYDROCARBON, PETROLEUM REFINERY, SILICA GEL, ZEOLITE,  
CHROMATOGRAPHIC ANALYSIS/(U)KSK SILICA GEL, (U)INZ600 SOLID CARRIER,  
(U)CAX ZEOLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0320

STEP NO--UR/0291/70/014/001/0029/0030

CIRC ACCESSION NO--AP0137425

UNCLASSIFIED



2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137425

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HIGH BOILING (B.P. SIMILAR TO 500DEGREES) MIXT. OF AROMATIC HYDROCARBONS WAS ISOLATED FROM A PHENOLIC EXT. FROM THE FERGANSK REFINERY. IT IS A CLEAR, VISCOUS, CHERRY RED OIL, D PRIME20 SUB4 EQUALS 0.987) SUBR N PRIME20 SUBD EQUALS 1.5783 AND MOL. ST. 312. ZEOLITE CAX ABSORBS 22PERCENT AROMATIC HYDROCARBONS, NAX (0.25-0.5 MM, CALCINED 5 HR AT 500DEGREES) WAS IMPREGNATED WITH 10PERCENT OF THIS OIL. TWENTY TWO AROMATIC HYDROCARBONS, B.P. 80-270DEGREES, WERE WELL SEPD. ON A 2-M BY 4 MM COLUMN AT 120 AND 200DEGREES, INJECTION BLOCK AT 220 AND 300 DEGREES, WITH 90 ML N-MIN AS CARRIER GAS. GOOD RESULTS WERE ALSO OBTAINED WITH 1PERCENT OIL ON HCL TREATED SAND, CALCINED AT 500DEGREES. FACILITY: INST. KHIM., TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 576.8

~~RYBAKOV, N. I.~~ GUBERNIYEV, M. A., CHIMIROV, O. B., DROZHENNIKOV, V. A.,  
KOLOBOV, A. V., ANISKIN, Ye. D., and KOZLOV, V. A., Institute of Experimental  
Biology, Academy of Medical Sciences USSR

"The Effect of Some Radioprotectors on Processes Associated With Lysogeniza-  
tion of Bacteria and Induction of Intracellular  $\lambda$ -Exonuclease"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1970,  
pp 38-42

Abstract: The radioprotector finam (an aminothiols) inhibited the frequency of  
lysogenization of E. coli SF-14 ( $\lambda$ -try-S<sup>+</sup>) by  $\lambda$ -phage and inhibited the  
synthesis of induced  $\lambda$ -exonuclease at different times after infection. The  
effect was most pronounced in early stages of infection. After thirty minutes  
the inhibiting effect of the radioprotector on  $\lambda$ -exonuclease activity de-  
creased sharply. Results of determination of the activity of  $\lambda$ -exonuclease  
are consistent with data on the effect of finam on lysogenization of the same  
bacterial strain. This suggests that enzyme systems play a part in the de-  
velopment of lysogenicity in bacterial cells. These enzymes may be DNAses of  
the endonuclease type.

1/1

- 52 -

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--KINETICS OF BENZENESULFONAMIDE SOLVOLYSIS IN DILUTE FUMING SULFURIC  
ACID -U-  
AUTHOR-(04)-RYABOVA, R.S., VINNIK, M.I., LAZAREVA, V.T., ERLIKH, R.D.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 797-800  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHEMICAL REACTION KINETICS, AMIDE, SULFURIC ACID, BENZENE  
DERIVATIVE, ORGANIC SULFUR COMPOUND, CHEMICAL REACTION MECHANISM  
CENTREL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/2153 STEP NO--UR/0366/70/006/004/0797/0800  
CIRC ACCESSION NO--AP0125736  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125736

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE SOLVOLYSIS OF PHSD SUB2 NH  
SUB2 IN OLEUM CONTG. 0.01-1.63PERCENT SO SUB3 GIVES PHSD SUB3 H AND H  
SUB2 NSO SUB3 H AND IT IS A 1ST ORDER REACTION IN RESPECT TO PHSD SUB2  
NH SUB2. THE EFFECTIVE RATE CONSTS. INCREASE WITH SO SUB3 CONC. IN THE  
LINEAR FASHION. A REACTION MECHANISM IS PROPOSED INVOLVING THE  
FORMATION OF A COMPLEX BETWEEN PHSD SUB2 NH SUB2 AND H SUB2 S SUB2 O  
SUB7 (WHICH EXISTS IN OLEUM) AND ITS DECOMP. TO PHSD SUB3 H AND H SUB2  
NS SUB2 O SUB6 H WHICH REACTS WITH H SUB2 SO SUB4 GIVING H SUB2 NSO SUB3  
H AND H SUB2 S SUB2 O SUB7.

UNCLASSIFIED

USSR

UDC 77

SAMOYLOVICH, D. M., ARDASHEV, I. V., RYABOVA, R. V.

"Concerning the Formation of a Latent Photographic Image in Very Fine-Grained Photocemulsions"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 329-332 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1321)

Translation: The chemical stabilization of very fine-grained emulsions by  $Ag^+$  ions is investigated. The calculation shows that in one microcrystal of such an emulsion with a thickness of  $\sim 25$  m $\mu$  there is  $\sim 10^{-2}$  mobile  $Ag^+$  ions but, considering their concentration on the surface, not more than one ion. The formation of more than one Ag atom in the photolysis of this microcrystal is therefore impossible and only an increase in the surface concentration of  $Ag^+$  can lead to the appearance of photographic sensitivity in the microcrystal. One of the methods for increasing the concentration of mobile  $Ag^+$  ions is synthesis

1/2

USSR

SAMOYLOVICH, D. M., et al, Mezhdunar. kongress po fotogr. nauke, Moskva, 1970,  
Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat,  
no year given, pp 329-332

with a large excess of  $Ag^+$  ions: experiments showed that a similar synthesis in an excess of  $Br^-$  ions or in a small excess of  $Ag^+$  ions does not lead to the appearance of photographic sensitivity of such small microcrystals, but with an increase in the excess of  $Ag^+$  above a certain threshold, the sensitivity sharply rises. It was shown that  $Ag$  absorbed on the microcrystal from without is in ionic form and is separated by washing. The dimensions of the  $Ag$ -groups producing a considerable change in photographic properties of the microcrystal under these conditions (fogging, desensitization), including the presence of gold, were evaluated. A. L. Kartuzhanskiy.

1/2 G24  
UNCLASSIFIED  
PROCESSING DATE--16OCT70  
TITLE--POSSIBLE INTENSIFICATION OF THE CHROMIUM PLATING PROCESS -U-  
AUTHOR--(03)-DAVYDOV, A.D., ~~RYABOV, A.YA.~~ KASHCHEYEV, V.D.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKTROKHIMIYA 1970, 6-(2), 292  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--ELECTRODE, ADHESION, METAL, CHROMIUM PLATING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FAME--1989/1397  
STEP NO--UR/0364/70/006/002/0292/0292  
CIRC ACCESSION NO--AP0107870  
UNCLASSIFIED

2/2 024  
CIRC ACCESSION NO--AP0107870  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. THE POSSIBILITY OF INTENSIFYING THE CATHODIC DEPOSITION OF CR ON A SMOOTH STEEL ELECTRODE WAS STUDIED BY USING A COLD ELECTROLYTE OF THE COMPN. (G-1.): CRO SUB3 400, H SUB2 50 SUB4 3, NAOH 60, SUGAR 2. WITH INCREASING C.D. THE CURRENT EFFICIENCY INCREASES LINEARLY BETWEEN 0.1 AND 4.5 A-CM PRIME2. WITH INCREASING C.D. THE HARDNESS OF THE CR DEPOSITS INCREASES. AT HIGH C.D. A REVOLVING DISK ELECTRODE WAS USED WITH OHMIC POTENTIAL DROP BETWEEN THE STUDIED ELECTRODE AND THE REF. ELECTRODE. UNDER POTENTIOSTATIC CONDITIONS AT MINUS 1.2 V A DENSE CR DEPOSIT WITH GOOD ADHESION TO STEEL WAS FORMED. THE CURRENT EFFICIENCY EXCEEDS 60PERCENT. THE MICROHARDNESS IS 1100 KG-MM PRIME2. WITH A FAST ELECTROLYTE FLOW THROUGH A NARROW GAP BETWEEN THE ELECTRODES THE OUTPUT OF THE PROCESS CAN BE CONSIDERABLY INCREASED. THIS IS IMPORTANT FOR THE APPLICATION OF THICK DEPOSITS OF SOLID CR, E.G. IN THE REPAIR OF WORN OUT PARTS. FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED



2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ONE MOLE C SUB7-9 FATTY ACIDS ME  
ESTERS AND 1.45 MOLES HYDROXYLAMINE SULFATE (AS A 12-14PERCENT AQ.  
SOLN.) IS MIXED IN AN ENAMELED VESSEL, 7.39-7.82 MOLES NaOH (AS A  
53-60PERCENT AQ. SOLN.) ADDED, AT 20-25DEGREES, AND THE MIXT. AGITATED  
AT 20-25DEGREES FOR 2 HR. HEATED AT 55-60DEGREES FOR 1 HR H SUB2 O ADDED  
AND ACIDIFIED TO PH 4-5 AT LESS THAN 40DEGREES TO GIVE AN OILY ORG.  
LAYER WHICH CONTAINS 65-70PERCENT FREE ALKYLHYDROXAMIC ACIDS (I),  
7-20PERCENT FATTY ACIDS AND THE BALANCE H SUB2 O; THE YIELD OF I IS  
72-8PERCENT.

UNCLASSIFIED

Acc. Nr:

AF0049170

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

480080

99979x Synthesis of some O-alkylthiono carbamate derivatives. Ryabov, V. I.; Krutikov, V. K.; Konev, V. A. (USSR). Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 210-11 (Russ). Prepn. of title compds., ROCSNHR<sup>1</sup> (I), flotation reagents, is described. I (R = Pr, or Bu; R<sup>1</sup> = Ac) were prepd. from O-alkylthiocarbamate with excess Ac<sub>2</sub>O. Thus, 11.9 g propylthionocarbamate was heated 3 hr with 47 ml Ac<sub>2</sub>O on a water bath to give 92.3% I (R = Pr, R<sup>1</sup> = Ac), m. 62-3° (petroleum ether). Similarly prepd. was 90% I (R = Bu; R<sup>1</sup> = Ac), m. 56.5-7.5° (petroleum ether). I (R = Bu, R<sup>1</sup> = Bz), m. 57-8°, was prepd. in 82% yield by refluxing 20 g benzoyl isothiocyanate with 17 ml BuOH and 8 ml toluene. I (R = Bu, R<sup>1</sup> = CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>Cl) (III) was also prepd. Thus, 18.8 g K butylxanthogenate in 20 ml H<sub>2</sub>O was treated with 12.5 g NaO<sub>2</sub>CCl<sub>2</sub>Cl in 30 ml H<sub>2</sub>O, kept overnight, and 60 g 50% ethylenediamine (IV) added to give 34% III, m. 176-7° (decompn.). If only 6 g IV was added (1:1 mole ratio), 84% I (R = Bu, R<sup>1</sup> = CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>Cl (S)OBu), m. 64-5° (benzene), was formed. I. Haiduc

REEL/FRAME  
19800977

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1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--MEASUREMENT OF THE SPECTRAL SENSITIVITY OF PHOTOFILMS UF-2T, UF-R, 1  
AND SC-5 IN THE 1.5-23.6 ANGSTROM REGION -U-  
AUTHOR--MOVSEV, V.G., RYABTSEV, A.N., SUKHODREV, N.K.  
COUNTRY OF INFO--USSR R  
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(2), 274-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--METHODS AND EQUIPMENT  
TOPIC TAGS--MEASUREMENT, PHOTOGRAPHIC FILM, GEL, SILVER, BROMIDE,  
SENSITIVITY INCREASE, SPECTRUM, PHOTOMETER/(U)UF2T PHOTOGRAPHIC FILM,  
(U)UFR PHOTOGRAPHIC FILM, (U)SC5 PHOTOGRAPHIC FILM, (U)MF2  
MICROPHOTOMETER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1989/0175 STEP NO--UR/0368/70/012/002/0274/0279  
CIRC ACCESSION NO--AA0106831  
UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AA0106831

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AFTER EXPOSURE (5 SEC-1 HR) THE FILMS WERE DEVELOPED IN THE D-19 DEVELOPER AT 20DEGREES, WITH DEVELOPMENT TIME 2 MIN FOR SC-5, 6 MIN FOR UF-R, AND 8 MIN FOR UF-2T. PHOTOMETRIC MEASUREMENTS WERE MADE ON THE MICROPHOTOMETER MF-2. THE CHARACTERISTIC CURVE OF THE FILM SC-5 REMAINS PRACTICALLY UNCHANGED WITHIN THE SPECTRAL REGION STUDIED. A SMALL DECREASE IN THE CONTRAST COEFF. WAS OBSD. FOR UF-R AND UF-2T FILMS IN THE LONG WAVELENGTH REGION. THE WAVELENGTH DEPENDENCE CURVES SHOW THAT THE SENSITIVITY OF UF-2T IN THE 5.4-13.3 ANGSTROM REGION AND OF UF-R IN THE 5.4-8.3 ANGSTROM REGION IS CONST., THEN DECREASES WITH WAVELENGTH UP TO LAMBDA 21.7 ANGSTROM. A SLIGHT INCREASE IN THE SENSITIVITY WAS OBSD. AT LAMBDA 21.7 ANGSTROM. IN THE 1.5-24 ANGSTROM REGION, SC-5 HAS THE HIGHEST SENSITIVITY. MEASUREMENTS OF THE ABSORPTION COEFFS. OF GELATIN AND AGR IN THE 1.5-23.6 ANGSTROM REGION REVEALED THAT AT LAMBDA 10-24 ANGSTROM, THE SENSITIVITY OF THE FILMS FOLLOWS THE ABSORPTION OF THE GELATIN LAYER AND INCREASES WITH DECREASING THICKNESS OF THE LAYER. IN THE 5-10 ANGSTROM REGION, THE ABSORPTION OF THE GELATIN LAYER IS NEGLIGIBLE AND THE SENSITIVITY OF THE FILMS INCREASES WITH INCREASING DIAM. OF AGR GRAINS.

UNCLASSIFIED

USSR

UDC 669.018.25:620.18

RYABTSEV, I. A., GOLOVASHCHUK, A. I., and FRUMIN, I. I., Electric Welding  
Institute imeni Ye. O. Paton

"Structure and Wear Resistance of High-Carbon Cr-Ti Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74,  
pp 46-48

Abstract: The combined effect of carbon, titanium, and chromium on the abrasive wear resistance of alloys was studied for the purpose of selecting a highly wear-resistant deformable alloy for the cladding layer in a wear-resistant bimetallic sheet. The iron-base alloys studied were U25Kh6M, U25Kh6T2M, U25Kh6T4M, U25Kh6T8M, U25T8M, U20Kh6t4M, and U30Kh6T4M, containing about 6% Cr and 2-8% Ti with 1% Mo. The best combination of hardness and wear resistance properties was exhibited by alloys U20Kh6T4M and U25Kh6T4M because they had an austenite-carbide or austenite-martensite-carbide structure and more than 30% retained austenite. The other alloys either had less than 30% retained austenite and too large a quantity of titanium carbides with improper proportions of TiC in combination with complex carbides  $M_7C_3$  and  $M_{23}C_6$ . Two figures, two tables, eight bibliographic references.

1/1

USSR

UDC 536.421.1.669.15.58-196

FRUMIN, I. I., KAS'YAN, V. V., GOLOVASHCHUK, A. I., GRABIN, V. P., and  
RYABTSEV, I. A., Electric Welding Institute imeni Ye. O. Paton of the Academy  
of Sciences USSR

"Determination of the Heating Temperature In Rolling High-Carbon Chrome-  
Titanium Steels"

Moscow, Stal', No 6, Jun 73, pp 546-548

Abstract: The temperatures of beginning fusion of eight high-carbon chromium steels with and without titanium were investigated with the help of a high-temperature microscope. The heating temperature in rolling or forging of ingots of high-carbon alloyed steels weighing up to 50 kg must be 10-20°C below the temperature of beginning fusion. For ingots of higher weight, considering possible development of liquation phenomena, the heating temperature must be somewhat lower. Titanium, hindering the development of a readily fusible ledeburite eutectic, in high carbon chromium steels raises their fusion temperature and extends the temperature range of deformation. The eutectic consists mainly of chromium carbides. The presence of carbon in the investigated steels lowers the fusion temperature and raises the quantity of ledeburite eutectic. Four figures, two tables three bibliographic references, 1/1

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USSR

UDC: 669.245

RYABTSEV, L. A., PRYAKHINA, L. I., and IGNATOV, D. V. , Moscow

"High-Temperature Oxidation Resistance of Nickel-Base Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 190-191

Abstract: There is little if any information on the oxidation of multi-component nickel-base alloys with oxidizability as a function of alloying. The purpose of this study was to determine changes in the high-temperature oxidation of nickel-base alloys at 900° C as a function of open-air oxidation time and an increasing number of alloying elements. Three- Ni-Al alloys, with 3, 10, and 13.3 wt.% aluminum were selected for the study. It was found that the high-temperature oxidation resistance of the  $\gamma'$ -solid solution based on  $\text{Ni}_3\text{Al}$  (13.3% Al) in Ni-Al alloys is considerably higher than that of the  $\gamma$ -solid solution (3 wt.% Al) due to the formation of dense oxide films of spinel-type  $\gamma\text{-Al}_2\text{O}_3$  and  $\text{NiAl}_2\text{O}_4$ . The presence of the  $\gamma'$ -phase in two-phase ( $\gamma+\gamma'$ ) alloys causes higher oxidation resistance

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USSR

RYABTSEV, L. A., et al, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 190-191

(at high temperatures). Subsequent addition of chromium (10 wt.%) and titanium (2 wt.%) results in a higher oxidation resistance of the nickel alloy with 6 wt.% Al. The further addition of alloying elements such as tungsten, molybdenum, and niobium has no appreciable effect on high-temperature oxidation resistance.



Biochemistry

USSR

UDC 547.964.4+577.17

SHVACHKIN, YU. P., VDOVINA, R. G., POZNYAK, M. G., VOLUYSKAYA, YE. N.,  
~~RYABTSEV, M. N.~~ KRIVTSOV, V. F., GRACHEVA, A. K., KRASHCHCHERKOV, S. P.,  
NOVOSELOV, V. A., CRUZDEV, V. S., OLEYNIK, A. M., KALINKINA, Z. B., FEDOTOV,  
V. P., IVANOV, A. I., YUDAYEV, N. A.

"New Synthesis of Human Insulin"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

Abstract: Human insulin was synthesized on the basis of obtaining A and B chains by the solid phase method [R. B. Merrifield, J. Am. Chem. Soc., No 85, 2149, 1963; J. Stuart, et al., Tverdogazny sintez peptidov, Moscow, Mir, 1971] and subsequently combining the synthetic chains into the complete molecule of the biologically active hormone. Here, a new version of the synthesis is realized which permits exclusion of treatment of the chains with sodium in liquid ammonia which eliminates the danger of undesirable side reactions caused by this reagent [A. Marglin, et al., J. Am. Chem. Soc., No 88, 5051, 1966]. The A and B chains of human insulin were synthesized on an automated device using a spherical chloromethylated copolymer of styrene with 1% divinyl benzene as the insoluble carrier. All operations were performed in a nitrogen atmosphere. The derivatives of the L-amino acids used in the synthesis of the A and B chains are listed. The fluorohydrates of the chains were con-  
1/2

USSR

SHVACHKIN, YU. P., et al., Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

verted into S-sulfonates which exhibited no differences from the S-sulfonates of the corresponding natural chains of bull insulin. The synthetic A and B chains were recombined both with the corresponding natural chains and among each other. The resultant compounds had specific insulin activity of comparable magnitude to the previously synthesized insulin compounds [K. Lubke, et al., Adv. Enzymol., No 33, 445, 1970].

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- 4 -

1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--THERMAL CONDUCTIVITY OF LIGHT HYDROCARBONS (PROPYLENE) -U-  
AUTHOR--KAZARYAN, V.A., RYARTSEV, N.I. R  
COUNTRY OF INFO--USSR  
SOURCE--GAZOV. PROM. 1970 15(1) 45  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL CONDUCTIVITY, PROPYLENE, CRITICAL PRESSURE, LOW  
TEMPERATURE EFFECT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1989/0212 STEP NO--UR/0492/70/015/001/0045/0045  
CIRC ACCESSION NO--AP0106868  
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106868

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE THERMAL COND. OF LIQ. AND GASEOUS PROPYLENE WAS DETD. WITH AN ACCURACY OF 2PERCENT AT 182.5 TO 425.1DEGREESK AND 0.1-50.6 MN-M PRIME2. AT 359.7, 378.8, AND 399.2DEGREESK, THE THERMAL COND. INCREASES SHARPLY AT PRESSURES CLOSE TO THE CRIT. PRESSURE. AT ALL TEMPS. AND PRESSURES INVESTIGATED, EXCEPT THOSE NEAR THE CRIT. REGION, THE EXCESS THERMAL COND. ( $\lambda_{\text{SUBP},T} - \lambda_{\text{SAT}}$ ) IS A MONOTONIC FUNCTION OF THE D.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--THE RESULTS OF THE SURGICAL TREATMENT OF CANCER OF UPPER REGIONS OF  
THE STOMACH -U-  
AUTHOR--(03)--KUZIN, M.I., RYABTSEV, V.G., BAYANDIN, L.P.  
COUNTRY OF INFO--USSR  
SOURCE--KHIRURGIYA, 1970, NR 5, PP 47-52  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SURGERY, STOMACH, CANCER, CARCINOMA, SUTURE, HEART, LUNG,  
METASTASIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3003/0137 STEP NO--UR/0531/70/000/005/0047/0052  
CIRC ACCESSION NO--AP0129393  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129393

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT THE N. N. BURDENKO FACULTY SURGICAL CLINIC BETWEEN 1948-1967 3704 PATIENTS WERE TREATED FOR CANCER OF THE STOMACH. OF THIS NUMBER IN 1375 CASES (37.8PERCENT) THE TUMOR WAS LOCATED IN THE UPPER REGIONS OF THE STOMACH. DURING THIS PERIOD OF TIME 300 GASTRECTOMIES AND 134 PROXIMAL RESECTIONS OF THE STOMACH WERE PERFORMED. POSITIVE RESULTS OF OPERATIONS WERE RECORDED. DURING THE LAST YEARS THERE WAS A SIGNIFICANT INCREASE OF OPERABLE PATIENTS WITH GASTRIC CARCINOMA (FROM 63.4PERCENT TO 80.1PERCENT), AS WELL AS THE RESECTABILITY (FROM 40.9PERCENT TO 49PERCENT). AMONG RADICAL OPERATIONS FOR GASTRIC CANCER TOTAL GASTRECTOMY WAS MORE OFTEN PERFORMED (FROM 13PERCENT TO 20.2PERCENT). THERE WAS A PRONOUNCED DROP OF THE POSTOPERATIVE LETHALITY AFTER GASTRECTOMY (FROM 30PERCENT TO 11.4PERCENT) AND AFTER PROXIMAL RESECTIONS (FROM 29PERCENT TO 13.3PERCENT). REDUCTION OF THE POSTOPERATIVE LETHALITY DEPENDED UPON DECREASE OF THE NUMBER OF SUCH POSTOPERATIVE COMPLICATIONS AS FAILURE OF ANASTOMOTIC SUTURES AND CARDIOPULMONARY COMPLICATIONS. THE REMOTE RESULTS DEPEND ON THE STAGE OF THE DISEASE, METASTASIZATION AND FORM OF THE TUMOR. A FIVE YEAR PERIOD AFTER GASTRECTOMY SURVIVED 18.2 PER CENT, A TEN YEAR PERIOD, 15 PERCENT OF PATIENTS. AFTER PROXIMAL RESECTION OF THE STOMACH 24.3 PERCENT OF CASES SURVIVED A FIVE YEAR PERIOD. FACILITY: FAKUL'TETSKAYA KHIRURGICHESKAYA KLINIKA I MMI IM. I. N. SECHENOVA.

UNCLASSIFIED

USSR

UDO 621.514.61

KOGAN, V.L., RYABTSEV, V.M.

"Supplementary Semiconductor Filter"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific-Technical Collection. Technology And Organization Of Production), 1970, Issue 2(34), pp 110-114 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B480)

Translation: The circuit is described of a semiconductor filter which is intended for supplementary smoothing of the pulsations of regulated high-voltage sources of d-c voltage. The filter is connected in series with the load at the output high-voltage bus of the rectifier. The third lead of the semiconductor filter is connected across a high-voltage capacitor with the grounded terminal of the rectifier. The semiconductor filter comprises three transistors included in the circuit of a composite emitter follower, three semiconductor diodes, a capacitor, and two resistors. The circuit developed for the filter assures supplementary smoothing of pulsations of approximately two orders of magnitude in a wide range of load currents irrespective of the magnitude of the d-c voltage of the source. The circuit elements assure protection of the transistors from voltage surges. A computation is presented for the basic parameters of the filter and an indication is given with respect to their optimization. 3 ill. 1 tab. 2 ref. L. R.

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1/2 041 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--GENERALIZATION OF THE OPERATIONAL CHARACTERISTICS OF A SECTIONAL  
PLASMATRON WITH COMPRESSED CHANNELS -U-  
AUTHOR--(04)--KOSARENKOV, V.A., RYABTSEV, YE.I., STELMAKH, G.P., CHESNOKOV,  
N.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. MEKH. TEKH. FIZ.; NO. 1, 115-8 (JAN-FEB 1970)  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--PLASMA ACCELERATOR, VOLT AMPERE CHARACTERISTIC, PLASMA JET,  
FLOW VELOCITY, PLASMATRON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/0214 STEP NO--UR/0207/70/000/001/0115/0118  
CIRC ACCESSION NO--AP0127825  
UNCLASSIFIED



2/2 041

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VOLT AMPERE CHARACTERISTICS OF A SECTIONED CHANNEL PLASMATRON WERE DETERMINED AT REDUCED PRESSURES. THE VELOCITY OF THE JET MAY BE INCREASED BY INCREASING THE GAS CONSUMPTION, REDUCING THE PRESSURE, AND IMPROVING THE NOZZLE DESIGN. THE JET DIAPHRAGM PLASMATRON STUDIED CONSISTED OF 6 SECTIONS WITH 20 MM DIAMETER AND 20 MM HIGH CHANNELS. THE 4, 8, 12 OR 16 MM NOZZLE WAS ATTACHED AT THE ANODE SECTION; THE ARGON CONSUMPTION WAS VARIED FROM 0.2 TO 3.5 G-SEC. THE EXPERIMENTAL PRESSURE RANGED FROM 1.33 TIMES 10 PRIME2 TO 1.33 TIMES 10 PRIME3 N-M PRIME2, UPON COMPRESSION IN THE CHANNELS, IT VARIED FROM 1.33 TIMES 10 PRIME3 TO 1.33 TIMES 10 PRIME5 N-M PRIME2. THE ENTHALPY OF THE JET WAS CALCULATED FROM THE THERMAL BALANCE OF THE SYSTEM. THE DATA OBTAINED WERE COMPARED WITH GENERALIZED CRITERIAL RELATIONS. THE FOLLOWING CORRELATION WAS OBTAINED:  $U \text{ EQUALS } 1.91 I \text{ PRIME NEGATIVE } 0.1 K \text{ PRIME NEGATIVE } 1.0 D \text{ PRIME NEGATIVE } 1.3$ , WHEN  $I$  SMALLER THAN  $10 \text{ PRIME } 3$ ,  $5 \text{ TIMES } 10 \text{ PRIME } 3$  SMALLER THAN  $K$  SMALLER THAN  $5 \text{ TIMES } 10 \text{ PRIME } 2$ , AND  $1$  SMALLER THAN  $D$  SMALLER THAN  $5$ , WHEREBY  $U$  WAS DERIVED FROM CHM'S LAW,  $I$  FROM THE ENERGY EQUATION AND  $D$  REPRESENTS THE RATIO OF THE DIAMETERS OF THE CHANNEL AND THE NOZZLE. UNDER CERTAIN CONDITIONS THE RELATIONSHIP BECOMES  $U \text{ EQUALS } 0.6 I \text{ PRIME NEGATIVE } 0.2 K \text{ PRIME NEGATIVE } 1.0 D \text{ PRIME NEGATIVE } 1.3 L \text{ PRIME } 0.65$ , WHEN  $0.3$  SMALLER THAN  $L$   $11.0$ , WHEREBY  $L$  IS A GEOMETRIC FACTOR. THE FORMULA ALLOWS ESTIMATION OF THE OPERATIONAL CHARACTERISTICS OF PLASMATRONS.

UNCLASSIFIED

USSR

IDC 577.150.6

TROFIMENKO, N. M., TIKHONOVA, N. P., KUBLITSKAYA, M. A., and RYABTSEVA, N. A.

"Strains of Botrytis cinerea, Pathogens of Gray Mold of Grapes, and Producers of Enzymes of the Pectinase Complex"

Kishinev, Izvestiya Akademii Nauk Moldavskoy SSR, Seriya Biologicheskikh i Khimicheskikh Nauk, No 4, 1971, pp 41-44

Abstract: In connection with a study of gray mold (Botrytis rot) of grapes in the Crimea, five strains of Botrytis cinerea were isolated from infected grapes. These strains differed in morphological, physiological, and biochemical characteristics. Two of the strains isolated (Nos 20 and 30), which infected grapes most frequently, had a high pectinolytic activity. This activity was preserved during artificial cultivation of the fungus on a medium based on sugarbeet pulp. After the culture fluid derived from strains Nos 20 and 30 had been separated by filtration, an enzyme preparation with a high pectinolytic activity was isolated by precipitation with alcohol or ammonium sulfate. The preparation also had some proteolytic activity and expedited the hydrolysis of cellulose. Tests in the wine-making industry indicated that the enzyme preparation, which acted on the skin of grapes, increased the yield of juice (by 2-4%), of tanning  
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USSR

TROFIMENKO, N. M., et al., Izvestiya Akademii Nauk Moldavskoy SSR, Seriya Biologicheskikh i Khimicheskikh Nauk, No 4, 1971, pp 41-44

substances and dyes (by 30-50%), and of some other products derived from grapes. The results of the tests showed that enzymes derived from *Botrytis cinerea* can be used to advantage in the wine-making and grape juice (fruit juice) industries.

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USSR

UDC 536.53

RYABTSEVA, N. A.

"Semiconductor Thermoresistor Gauges and Instruments for Temperature Measurement"

Sb. tr. Projektn. i n.-i. in-t. Ural'skiy Promstroyniproyekt (Collection of Works) of the Design and Scientific Research Institute. Ural Promstroy-niproyekt), 1970, No 25, pp 77-88 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug '70, Abstract No 8.32.594)

Translation: The features of application of semiconducting thermoresistors for temperature measurement are considered. The basic characteristics, advantages and shortcomings of thermoresistors as temperature gauges are given. The electric circuits of semiconductor thermometers of the type ET-120, ET-300, ETP-3, ETP-4, ETP-1A and ET-1, the methods of standardizing the thermoresistors and the determinations of the parameters of unbalanced bridge are given. Description is given of the designs of cited instruments and their sensing elements and the technical characteristics presented. 6 ill., 1 table, 4 bibl. entries.

Resume

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- 143 -

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--TRANSCORTIN BINDING PROPERTIES AT HYPERTENSION IN THE GENEALOGICAL  
ASPECT AND TWINS STUDIES -U-  
AUTHOR-(04)-GERASIMOVA, YE.N., IGNATOVA, L.N., RYVKIN, I.A., RYABTSEVA,  
S.V.  
COUNTRY OF INFO--USSR  
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 296-300  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--HYPERTENSION, HEREDITARY DISEASE, HUMAN GENETICS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/0145 STEP NO--UR/0301/70/016/003/0296/0300  
CIRC ACCESSION NO--AP0120845  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120845

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BINDING PROPERTIES OF  
TRANSCORTIN IN PATIENTS WITH HYPERTENSION ARE DECREASED. THE ANALOGOUS  
PICTURE WAS SHOWN IN MEN WITH NORMAL BLOOD TENSION WHOSE PARENTS WERE  
SUFFERED WITH HYPERTENSION. IN ONE EGG TWINS THE PRONOUNCED CONCORDANCE  
IN THIS FEATURE WAS DEMONSTRATED. THIS CONCORDANCE WAS WELL CORRELATED  
WITH THE ARTERIAL TENSION LEVEL. THE DATA PRESENTED POINT TO THE  
INVOLVEMENT OF HEREDITARY FACTORS, REALIZING IN THE COURSE OF  
HYPERTENSION DEVELOPMENT, IN THE DETERMINATION OF TRANSCORTIN BINDING  
LEVEL. IT MAY BE SUPPOSED THAT THIS ONE OF THE POSSIBLE MECHANISMS OF  
TRANSMISSION OF HEREDITARY PREDISPOSITION TO HYPERTENSION.  
FACILITY: THE DEPARTMENT OF BIOCHEMISTRY I ST MEDICAL INSTITUTE AND A.  
L. MYASNICOV CARDIOLOGY INSTITUTE USSR ACADEMY OF MEDICAL SCIENCES,  
MOSCOW.

UNCLASSIFIED

USSR

UDC 577.391:547.436

ZABALUYEVA, I. I., and RYABUKHA, A. K., Central Scientific Research Institute of Rcentgenoradiology, Ministry of Health USSR, Leningrad

"Effect of Desympathization on Cell Proliferation in the Thymus of Irradiated Mice in Cases of Cystaphos Protection"

Moscow, Radiobiologiya, Vol 12, Vyp 1, Jan/Feb 72, pp 132-136

Abstract: A study was made to determine the effect of sympatholityn on cell proliferation in the thymus. Male white mice were given 5 and 10 mg/kg doses of sympatholytin intraperitoneally 2 hours before exposure to 500 r irradiation. Subsequent examination of the cortical layer of the thymus showed that after 1 day sympatholytin aggravates radiation damage to lymphoid cells and, after 7 days it inhibits the restorative process by delaying maturation of lymphocytes. This effect was diminished with a lower dosage and a greater time lapse. When cystaphos was administered with an equal dose of sympatholytin, the structural changes in thymus cells were less severe. Desympathization does not seem to affect the protective effect of cystaphos on cell proliferation following irradiation.

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RYABUKHA, A. K.

Medicine/  
Physiology

SO:SPES 54939

23 NOV 71

UDC: 616-018.15-091.9

CHANGES IN REACTIVE INHIBITION OF MITOSIS IN THE PRESENCE OF PATHOLOGY  
(EXPERIMENTAL INVESTIGATION)

*Medicine/Physiology*

Article by A.K. Ryabukha, Central Scientific Research Institute of Biogenetics and Radiology, USSR Ministry of Health, Leningrad; Ye.S. Vozov, Ventsik Akademi Meditsinskikh Nauk SSSR, Russian, No 10, 1971, pp 37-60

It has been established that painful stimulation or excitation of animals leads to a marked inhibition of mitotic activity in tissues (I.A. Utkin, G.S. Strelnik et al.; S.Ya. Zaklind; I.A. Alov, and others).

Friedenwald and Buschke voiced the assumption that the sympatho-adrenal system and, in particular, the hormone, epinephrine, participates in this reaction. This has been confirmed experimentally. When administration of adrenalin to animals induced a marked decrease in number of dividing cells (Bullough; V.V. Kozlov; I.A. Alov; V.V. Bogoyavlenskaya and V.N. Dobrokhov, and others). Other researchers (I.A. Alov et al.; A.K. Ryabukha) established that, after adrenalectomy, painful stimulation of animals hardly induces reactive inhibition of cell division. Thus, there are many reasons to believe that the adrenal hormone, epinephrine, plays a substantial part in the neuro-hormonal mechanism of reactive inhibition of cell division.

In the present work we continue investigation of the cell division inhibition reaction in the presence of pathology induced by administration of thermolabile pertussis toxin to animals. We demonstrated that administration of this toxin to rats leads to weakening of inhibition of cell division upon allergic stimulation. At the same time, administration of toxin per se does not appreciably alter mitotic activity in the corneal epithelium. This served as the basis for the conclusion that the action of thermolabile pertussis toxin is probably related to inhibition of adrenal function (A.K. Ryabukha and P.V. Osipova).

However, there might have been other reasons as well for weakening of the cell division inhibition reaction. Pathomorphological examination of experimental animals served as the basis for this assumption. The morphological changes in the adrenals were negligible 7, 14, and 21 days after administration of pertussis toxin, whereas the liver presented visible mixed necrotic foci. Other authors (U.S. Bibilova et al.) have also observed similar changes in the liver after administration of pertussis toxin to animals.



1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--PROBLEM OF THE MECHANISM OF THE THERAPEUTIC ACTION HOMODIETIC  
TISSUE TRANSPLANTATIONS AFTER DAMAGE BY IRRADIATION -U-  
AUTHOR--(02)-RYABUKHA, A.K., AYEZVAYA, S.P.  
COUNTRY OF INFO--USSR  
SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, MAR. 1, 1970, P. 244-246  
DATE PUBLISHED--01MAR70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--TISSUE TRANSPLANT, BONE MARROW TRANSPLANT, RAT, RADIATION  
PROTECTION, RADIOPROTECTIVE AGENT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PGYX REEL/FRAE--1994/1091 STEP NO--UR/0020/70/191/000/0244/0246  
CIRC ACCESSION NO--AT0115110  
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AT0115110  
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. EXPERIMENTAL STUDY OF THE  
THERAPEUTIC EFFECTS OF TRANSPLANTED BONE MARROW ON IRRADIATED RATS, IN  
THE CASE WHERE THE TRANSPLANTED TISSUE IS PREVENTED FROM RESETTLEMENT IN  
THE BODY. THE BONE MARROW WAS TRANSPLANTED IN DIFFUSION CHAMBERS (0.45  
MICRON PORE DIAMETERS) AFTER 500 AND 600 R DOSES OF IRRADIATION. THE  
TISSUE WAS CONTAINED IN THE DIFFUSION CHAMBER TO PREVENT ITS  
RESETTLEMENT IN THE BODY WHILE ALLOWING THE EFFECTS OF ITS ACTIVITY TO  
INFLUENCE THE IRRADIATED ANIMALS. SURVIVAL CURVES FOR THE RATS  
SUBJECTED TO 500 R DOSES SHOW A STRONG BENEFICIAL INFLUENCE OF THE  
MARROW TRANSPLANT; 41PERCENT OF THE ANIMALS WITH THE TRANSPLANT SURVIVED  
21 DAYS AS COMPARED TO 10PERCENT OF THE ANIMALS WITH NO MARROW IN THE  
IMPLANTED DIFFUSION CHAMBER. RATS SUBJECTED TO 600 R DOSES SHOWED NO  
EFFECTS OF THE TRANSPLANT, AND MOST ANIMALS DIED WITHIN 12 DAYS.  
FACILITY: TSENTRAL'NYI NAUCHNO ISSLEDOVATEL'SKII RENTGENO  
RADIOLOGICHESKII INSTITUT, LENINGRAD, USSR..

UNCLASSIFIED

USSR

UDC 616-00128+612.419

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RYABUKHA, A. K., and REZVAYA, S. P.

"The Question of the Mechanism of the Therapeutic Action of Transplanted Hematopoietic Tissues in Irradiation Traumata"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 1, 1970, pp 244-246

Abstract: Because of diverse theories concerning the therapeutic effect of transplanted tissues, a method was devised which excludes migration of cells, using a ring chamber 21-25.5 mm in diameter and 5 mm high, both sides of which were closed by a 45 $\mu$  millipore filter, precluding cell diffusion. Before irradiation, bone marrow was obtained from tibias and kept in solution at 4°C. Upon irradiation of rats, chambers containing 20-25 million live cells were surgically placed within the animals. Controls received empty chambers. During the 2-day observation period, all groups were kept under ordinary conditions. All rats receiving 600 r died within 6-12 days. Of the 39 treated animals and 40 controls receiving 500 r., 41% of treated and only 10% of controls survived 21 days. Inasmuch as the cells could not migrate from the chambers, it is evident that the therapeutic effect is due to the vital activity products of the bone marrow. 1/1